

REMARKS

The rejection of Claims 1, 2, 4-9, 11-15 and 17-21 as being unpatentable over Kromrey in view of the newly cited Cole et al and Muir et al patents under 35 U.S.C. §103(a) is respectfully traversed. Reconsideration is requested in view of the foregoing amendments and following remarks.

To the extent any patentability issue still remains, Applicant's undersigned representative would invite the Examiner to initiate having a personal interview in order to expedite prosecution of this application given the advanced stage of prosecution.

Previously, Applicants noted that the Kromrey patent is addressed to the goal of solving the common problem of composites that allow vapor and fluid flow but does not teach the claimed invention. That statement is as equally apt now given that the Office relies upon two additional patents in an effort to bridge the differences between Kromrey's molding method and the claimed invention herein. Applicant wishes to emphasize those differences by making clear that the breather sheet of the present invention is defined as having outer layers of a semi-rigid material and configured to allow volatiles to pass through the sheet from one outer layer to the other.

The Kromrey method is concerned with the manufacture of precision molded products from composite materials as used, for example, in this aerospace industry so as to have good surface finish. The Kromrey breather sheet comprises a flexible fabric layer 107, a layer of small beads 110, at least

one layer of larger beads 113 and a layer of glass fiber 119 on the outer surface of the layer(s) of larger beads. The function of the fabric layer 107 and the layer of small beads 110 is to present a relatively smooth surface to the prepeg to be molded so that its surface is not embossed by the larger beads during molding. There is not just a single layer of beads. Indeed, at least two layers of beads are fundamental to Kromrey's teachings as Claim 1 in the Kromrey patent makes clear.

Applicant respectfully disagrees with the Office's position that it would have been obvious to substitute Cole et al's metal mesh layer for Kromrey's glass bead layer. Consider that the Cole et al method focuses on molding of hardboard and other formable boards, these being materials for the building and construction industries. A characteristic of such boards is that only one of the two surfaces of the board need to have a good standard finish. The finish of the other surface, which is not seen in normal use, is unimportant and it thus can be heavily embossed during the forming process without detriment to the acceptability of the product; Cole et al (col. 5, lines 42-46) teaches that the requirement is simply that the rear of the board is not embossed so heavily that the markings show through on to the front of the board. Because the Cole et al method is unconcerned about the rear surface of the board, and is making a building industry product, materials familiar to the building industry are used, specifically screens (meshes) "varying in size from standard aluminum window screen to half-inch galvanized hardware cloth".

A person of ordinary skill in Kromrey's field would not have looked to methods involving building materials to address the problem Kromrey sought to solve because those methods would have been considered as too crude and large-scale. In particular, the Cole et al method proposes to use coarse materials which would emboss the product surface (compare the above-mentioned size range given by Cole et al with Kromrey's small beads of 0.5 to 1.7 mm diameter).

Assuming one of ordinary skill in the art had had the benefit of hindsight to combine aspects of Cole et al's method with that of Kromrey, that person would not have arrived at the Office's asserted course of replacing only part of Kromrey's structure (the glass bead layer) with Cole et al's mesh. Instead, he/she would note that the mesh constitutes Cole's et al complete breather structure. The only modification he/she would contemplate would be to replace the entire Kromrey breather structure 107, 110, 113, 119 with Cole et al's single layer of mesh 26. The result would be a useless heavily-marked product which would destroy Kromrey's objectives. Even if that skilled person replaced only the bead layers 100, 113 of Kromrey by Cole et al's mesh 26, the resulting thin layer 107 would be unworkable because it would not prevent the mesh marking the product surface.

A combination of Kromrey and Cole et al certainly would not teach the claimed invention in which the volatiles are permitted to escape by passing through the sheet from one outer layer to the other, i.e. through the thickness of the sheet. In both Kromrey and Cole et al, the breather sheet is configured so

that the main or only flow of volatiles is laterally within the sheet to its edges. The flow through the thickness of Kromrey's breather structure proceeds only as far as the large beads 113 and is then diverted laterally (col. 4, lines 8-14).

Neither Kromrey nor Cole et al teaches semi-rigid outer layers on each side of the breather sheet. The layer 107 of Kromrey clearly is flexible, and Cole et al has no layers at all bounding the mesh 26. In the claimed invention, however, the semi-rigid layers confine the mesh to reduce the risk of it marking the surface of the product.

The Muir et al patent adds nothing to the hypothetical Kromrey/Cole et al method or product. Muir et al disclose a perforated embedded label for a blow-molded container, and this label is not a breather sheet for use in molding a product. To the contrary, it is part of the product itself. One skilled in the art of breather sheets, i.e. Kromrey's field, would not have considered Muir et al's teachings at all. As noted above, Kromrey and Cole et al direct escaping volatiles laterally of the breather structure, rather than through its thickness. Muir et al is totally irrelevant, and certainly does not teach the use of two perforated outer layers, it uses only one. And there is also no teaching whatsoever of how the holes should be positioned relative to internal passages in the breather structure.

In summary, impermissible hindsight would have to have been employed in combining the Cole et al and/or Muir et al teachings with those of Kromrey. In any event, the resulting hypothetical structure and method would not be the

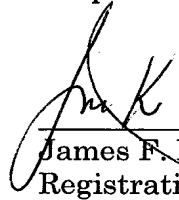
claimed invention herein. The Office Action does not establish a *prima facie* case of obviousness. Accordingly, early and favorable action is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #038665.55712US).

Respectfully submitted,

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